

CLAIMS:

1. An optical component for introducing optical aberrations to a light beam (20', 22'') defining an optical axis (28), comprising:
- a fluid chamber (46) having a first fluid (56) and at least a second fluid (58) therein, the first and second fluids (56, 58) being non-miscible, the first fluid (56) and the second fluid (58) being in contact along an interface (60) extending through the fluid chamber (46) substantially transverse to the optical axis (28), the first and second fluids (56, 58) having different indices of refraction, the first fluid (56) being substantially electrically insulating and the second fluid (58) being substantially electrically conductive;
 - at least a first electrode (62 – 70; 74 – 78) separated from the second fluid (58) and at least a second electrode (72) acting on the second fluid to alter the shape of the interface (60) in dependence on a voltage applied between the first and second electrode (62 – 70, 72);
- characterized in that
- the at least one first electrode is arranged in an intermediate portion with respect to the interface (60) such that the intermediate portion (A, B) of the interface (60) is moved substantially in direction of the optical axis (28) in dependence on the voltage applied between the at least one first electrode (62 – 70; 74 – 78) and the at least one second electrode (72).
2. The optical component of claim 1, characterized in that the at least one first electrode (62 – 70; 74 – 78) is arranged in a wall (52) of the fluid chamber (46) transverse to the optical axis (28).
3. The optical component of claim 1 or 2, characterized in that the at least one first electrode (62 – 70; 74 – 78) is configured as a thin plate having its plane arranged perpendicular to the optical axis (28).

4. The optical component of anyone of claims 1 through 3, characterized in that a plurality of first electrodes (62 – 70; 74 – 78) electrically insulated from one another are arranged side by side in substantially one plane perpendicular to the optical axis (28).
- 5 5. The optical component of claim 4, characterized in that the first electrodes (62 – 70; 74 – 78) are separately connected to a voltage supply such that different voltages can be applied between the at least one second electrode (72) and one of the first electrodes (62 – 70; 74 – 78).
- 10 6. The optical component of claim 4 or 5, characterized in that the first electrodes (62 – 70; 74 – 78) differ from one another in size and/or shape.
7. The optical component of anyone of claims 1 through 6, characterized in that the at least one electrode (62 – 70) is configured in ring shape.
- 15 8. The optical component of anyone of claims 4 through 7, characterized in that the first electrodes (62 – 70) are configured as rings arranged concentrical with respect to the optical axis (28).
- 20 9. The optical component of anyone of claims 4 through 7, characterized in that the plurality of first electrodes (74 – 78) comprises at least three first electrodes (74 – 78), two first electrodes (76, 78) of which are configured in elliptical or oval shape, which are arranged parallel to and in a distance from one another, and which are encompassed by a third first electrode (74) which fills the remaining portion between the two first electrodes
- 25 (76, 78).
10. A scanning device for optical record carriers, characterized by an optical component (48) of anyone of claims 1 through 9.